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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER POLTORAK, PIOTR	
			ART UNIT 2134	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/706,954

Applicant(s)

ASANO, OSAMU

Examiner

Peter Poltorak

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment received on 10/09/07 has been entered.

Response to Arguments

2. The abstract received on 10/09/07 has been accepted and the objection to the specification has been withdrawn.
3. Similarly, the amendment to claim 4-6, 9-11 and 15-16 overcame the claim objections and the 35 USC § 101 rejection cited in the previous Office Action.
4. Applicant's arguments are essentially directed towards the newly introduced limitations: "disabling when the virus detecting unit detects infected data, transmission of the data outside the hub unit to the communication devices directly connected to the hub unit, other than a communication device that transmitted the infected data" (e.g. claim 1) and "the virus spreading preventing unit registers a transmission lower layer address of a communication device that transmitted the data to the hub unit" (e.g. claim 2).
5. These newly introduced limitations are addressed in this Office Action, below.
6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.
7. Claims 1-19 have been examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 2, 8, 16 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular the original specification does not disclose "a transmission lower layer address".

9. Claims 2, 8, 16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention. The newly introduced term: "a transmission lower layer address" is not understood and there is no guidance in the specification what this term represents. For purpose of the further examination the term is treated as referring to MAC addresses.

Appropriate correction is required.

Claim Rejections - 35 USC § 102 or 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 3-5, 15, 17 and 19 are rejected under 35 U.S.C. 102(e) as anticipated by Campbell (USPN 20040003284)

Campbell discloses a hub system (Fig. 2 object 72) performing monitoring data for viruses in "on-line" mode.

11. As per claims 4, 19, Campbell discloses the hub that stores virus pattern information (Virus Database, Fig. 2 object 100 and associated text, e.g. [19-20]) and data received from any device (packets 122 in the packet queue 120 [27] received from a plurality of user computers, e.g. 92, 94, 96, 98 through a plurality of communication ports 80, 82, 84, 86 and 88 for example [17]). Campbell discloses disabling transmission of virus infected data outside of a hub unit to communication devices for any of the data that the hub unit determines is infected with a virus based on the stored virus pattern information (a packet is forwarded to a destination only if the packet is clean, i.e., no match with any virus pattern is found, [29]).

12. The examiner points out that claim 19 is broad enough to accommodate teaching of transmitting data outside of hub even if the data is found to be infected, as long as the virus is removed from the data, as shown by Gryaznov (USPN 2003/0070087).

13. As per claims 1, 15 and 17, Campbell discloses a first memory unit (virus database 100 disclosed in Fig. 2), a second memory unit (e.g. packet queue 122), a virus

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detecting unit (e.g. virus scanner 126) and a virus spreading preventing unit (e.g. switching control 78) that disables transmission of the data outside the hub unit to the communication devices directly connected to the hub unit (as indicated in paragraph [28] disclosing shutting off the port on which the infected computer is connected to prevent any further spreading of the virus to any device). Finally, Cambell discloses that the transmission of the data outside the hub unit does not prevent transmission of the data outside the hub unit to the communication device that transmitted the infected data (even after the detection of the virus in data, the port is open for the communication with the communication device that transmitted the data in order to alert the device that it is infected [28]).

14. The discussed teaching reads on claim 3. Disabling transmission is not limited to only previously received data from a first communication device and in fact the previously received data at some point was a newly received data. Additionally, as discussed above, Cambell disclose preventing transmitting data received on the port from the "infected" communication device. Thus, any following data will also be prevented from reaching other communication devices, which reads on claim 5.

Claim Rejections - 35 USC § 102 or 103

15. Claims 2, 7-10, 12, 16 and 18 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Campbell (USPN 20040003284).

As per claim 9-10, Cambell discloses stopping infected data at the system as discussed above.

16. As per claim 7, Cambell does not explicitly disclose a third memory unit storing transmission addresses of the plurality of the communication devices. However, the limitation is at least implicit, if not inherent. First of all in network communication devices sending data use destination addresses. Additionally, as clearly shown by Cambell, the hub system comprises a plurality of ports providing network connection between a plurality of computers (Fig. 2 and [17], for example). Thus, the hub system must have some way to associate the data communication between the communicating parties (computers) and this association must keep track of not only a sources and destinations addresses but also a ports used for the communication (see US PUB 2006/0041683, "Background of the Invention", USPN 6115385, Fig. 9 for example, etc.).

17. The examiner points out that even if Cambell's invention somehow was not utilizing a memory unit storing transmission addresses of a plurality of the communication devices (e.g. constantly sending a broadcast, which would be rather odd and irrational solution) storing transmission addresses of a plurality of the communication devices in a memory unit (in a table or a database) would have been obvious to one of ordinary skill in the art at the time of applicant's invention to given the benefit of efficiency.

18. Similarly, as per claims 2, 16 and 18, the examiner points out that in lower layer address (e.g. MAC) are necessarily used in the communication between network

devices, even if only higher layer (IP addresses) are disclosed. The reason is that lower layer addresses are addresses that are used for communicating data over physical medium (network wire). This is particularly true in LAN environment that utilizes Hubs. Furthermore, even if somehow only a higher layer addresses were utilized (thus stored in memory unit storing transmission addresses of the plurality of communication devices) storing and utilizing lower layer addresses such as MAC addresses would have been an obvious variation, well known in the art (see previously cited references), and one would have been motivated to use them especially in light of the benefits of these technologies as evidenced by their commercial success.

19. Note that the discussed feature reads on the claim limitation, although it appears, that applicant intention was to articulate registering the lower layer address of an "infected" communication device after it is found to provide infected data. However, this interpretation would also not overcome the art of record. In order to perform a particular action a computer must identify/flag (or register) an object of the action, especially if a change to the status of the object (such as identifying a computer device using address/port to implement the block on communication between the port and other ports, see USPN 6240530 the use of flags, for example).

20. As per claims 8 and 12, the examiner points out that the use of source/destination addresses (which requires determining coincidence of addresses attached to the data and addresses kept by a filtering system in memory) in disabling transmission of data is old and well known in the art of computer security (e.g. Libenzi, USPN

7117533). Filtering data (disabling transmission) using addresses are much more efficient since computer devices must handle addresses included in data at the receipt and transmission of any data, and Campbell explicitly discloses the need for efficient data manipulation (Campbell, e.g. [27]). Thus, the advantages of the determining whether the address attached to data transmitted from the device coincides with an address stored in the third memory unit (is marked as block/system infected, for example) systems of Larsson and DeBry could have been easily combinable with more than a reasonable expectations of success. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate such a modification given the benefit of system's efficiency.

21. Claims 13-14 are rejected under 35 U.S.C. 103(a) as obvious over Campbell (USPN 2004/0003284).

As per claims 13-14, although Campbell call his system implementing monitor functionalities a router [5]), Campbell is silent in regard to the monitor to be (implemented in) a gateway. However, the examiner points out that the hub/switch/router/gateway systems have essentially similar functionalities (the data is communicated through the system from a source to a destination) and given the fact that gateways are old and well known in the art of networking (see US PUB 2004/0047356, for example); an ordinary artisan would have been motivated to include Campbell's monitor in systems such as gateway given the benefit of scanning network packets communicating through the gateway for viruses and as a result preventing possible virus attacks.

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22. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as obvious over Campbell (USPN 20040003284) in view of Togawa (U.S. Patent No. USPN 6240530).

Campbell system has been discussed supra.

23. Campbell does not disclose a display unit for notifying that data is infected with a virus if the detecting unit determines that the data is infected with a virus.

Togawa discloses a display unit for notifying that data is infected with a virus if the detecting unit determines that the data is infected with a virus (Fig. 3 object 7, col. 24 lines 37-43 and col. 23 lines 9-15, for example). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the display unit as disclosed by Togawa into Campbell invention given the benefit of alternative means of system's operator notification.

24. Claims 1, 4-5, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama Masatoshi (Jap. Pub. No. 10307776), hereafter Masatoshi in view of Campbell (USPN 20040003284).

As per claims 1, 5, 15 and 17, Masatoshi discloses a device unit connected to plurality of communication devices (object 5, Fig. 1) comprising a first memory unit (PROM) storing virus pattern information; a second memory unit temporarily storing data received from any one of the communication devices (RAM); a virus detecting unit that determines whether the data temporarily stored in the second memory unit is infected with a virus or not based on the virus patterns stored in the first memory unit (control processor 305) (Masatoshi [0016-0017]).

Masatoshi transmitting to receiving-side equipment only data that is not virus infected is transmitted to receiving-side equipment, which clearly indicates invalidating infected data by a virus spreading preventing unit disabling transmission of the data outside the unit when the detecting unit determines that the data is infected with a virus.

The device unit disclosed by Masatoshi is a central location unit providing common connection to a multiple devices, and thus it reads on a hub. Furthermore, even if applicant was to argue some more restrictive definition of a hub, of the examiner points out that a name of a device would not affect the functionality of the Masatoshi's invention. Furthermore, hubs and other communication units are well known in the art of computing, and implementing Masatoshi's invention to other network devices (such as hubs) that connect multiple network nodes would have been an obvious variation given the benefit of relieving the receiving-side equipment from checking whether the received data is safe (e.g. Masatoshi [0018]).

25. Masatoshi does not explicitly disclose disabling transmission of the data to communication devices directly connected to the hub unit, other than a communication device that transmitted the infected data, when the virus detecting unit detects infected data.

Campbell teaches such an implementation (see discussion regarding Campbell reference above), and it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to disable transmission of the data to communication devices directly connected to the hub unit, other than a

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communication device that transmitted the infected data, when the virus detecting unit detects infected data as disclosed by Campbell, given the benefit of preventing virus spread as well as notifying the infected communication device about the virus infection.

26. As per claim 4, preventing newly received data from a first communication device to the communication devices reads on disabling the reception to new data from a first communication device.

27. Claims 2-3, 7-10, 12-14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama Masatoshi (Jap. Pub. No. 10307776), hereafter Masatoshi in view of in view of Campbell (USPN 20040003284), and further in view of Libenzi (USPN 7117533) or alternatively in view of Kim (USPN 6701440).

Masatoshi's hub unit detecting data infected with a virus has been discussed supra.

28. As per claims 2, Masatoshi does not disclose a memory unit storing transmission addresses of the plurality of the communication devices and registering a transmission address of a communication device that transmitted the infected data.

29. Libenzi discloses a memory unit (Fig. 2 object 37) that stores addresses of the plurality of the communication devices and registering a transmission address of a communication device that transmitted the infected data (col. 2 lines 58-67). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to implement a memory unit that stores addresses of the plurality of the communication devices and registering a transmission address of a communication

device that transmitted the infected data as taught by Libenzi given the benefit of avoiding a flood of infected message traffic.

30. Also Kim discloses a memory unit that stores addresses of the plurality of the communication devices and registering a transmission address of a communication device that transmitted the infected data (col. 6 lines 48-64). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include a memory unit that stores addresses of the plurality of the communication devices and registering a transmission address of a communication device that transmitted the infected data as taught by Libenzi or Kim into Masatoshi's invention. One of ordinary skill in the art would have been motivated to perform such a modification in order to ensure that the infected data is not forwarded to other recipients.

31. As per claim 16, any time that data (e.g. an address) is received and operated it inherently involves the process of registering data. Otherwise the data could not be accessed or retrieved.

32. As per claims 3, 7-9 implementation of Kim and Masatoshi's inventions would clearly prevent newly received data from a first communication device to the communication devices after determination that the first communication device is infected by a virus the data transmitted from the first communication devices is infected with a virus ("... infected messages are discarded ...", Libenzi, col. 2 lines 55-56, and "...blocking a sender's address results in all e-mail messages from the blocked sender to be automatically deleted ...", Kim, col. 6 lines 49-51, for example).

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33. As per claim 10, it is clear that the above-discussed data is received from a communication device and any data, including the newly received data, received from the device, found to be infected would be invalidated.
34. As per claims 13-14, the examiner points out that using a particular name for the entity (e.g. a gateway or a router) would not affect the functionality of the invention, especially since one of the functions of network devices such as gateway, router, hub etc. is to connect multiple devices.
35. As per claim 12, although Libenzi, Kim and Masatoshi do not explicitly disclose more than one protection device, such as discussed above hub, being connected in a cascade form, the examiner points out that connecting plurality of protection devices in a cascade mode is well known in the art of computer networking (e.g. Fig. 1, Smith USPN 7134142), and it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to connect more than one protection device (in a cascade form) given the benefit of a multiple layer network protection.
- Furthermore, Libenzi, Kim and Masatoshi do not explicitly discusses that in addition to a one of the network devices searching data within one database (e.g. said virus spreading preventing unit of a device determines whether or not a transmission address of a communication device, attached to data transmitted from the device, coincides with an address stored in the third memory unit in a first hub unit among the plurality of the hub units) searches other databases for additional data that would be used for additional data validation (e.g. if it determines that there is no coincidence between the two addresses it successively checks for the coincidence

between the transmission address and addresses stored in the respective third memory units in the successive hub units), the examiner points out that searching additional databases for data that would be used for additional data validation is well known in the art of networking, including the art of computer security (e.g. searching/pulling for security updates, Smith USPN 7134142 for example), and implementing such a feature into Masatoshi in view of Libenzi or alternatively Kim's invention would have been obvious to one of ordinary skill in the art at the time of applicant's invention given the benefit of data validation against the most updated information. Applying the rules using the updated data (if it determines that there is a coincidence between two addresses it disables transmission of the data to a communication device) would have been implicit.

36. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama Masatoshi (Jap. Pub. No. 10307776), hereafter Masatoshi in view of in view of Campbell (USPN 20040003284), and further in view of Togawa (U.S. Patent No. USPN 6240530).

Masoatoshi's hub unit detecting data infected with a virus has been discussed supra.

37. Masoatoshi does not disclose a display unit for notifying that data is infected with a virus if the detecting unit determines that the data is infected with a virus.

Togawa discloses a display unit for notifying that data is infected with a virus if the detecting unit determines that the data is infected with a virus (Fig. 3 object 7, col. 24 lines 37-43 and col. 23 lines 9-15, for example). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the

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display unit as disclosed by Togawa into Masatoshi's invention. One of ordinary skill in the art would have been motivated to perform such a modification in order to enable an operator to decide on a course of action.

38. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama Masatoshi (Jap. Pub. No. 10307776), hereafter Masatoshi in view of in view of Campbell (USPN 20040003284), and Libenzi (USPN 7117533) or alternatively in view of Kim (USPN 6701440), and further in view of Togawa (U.S. Patent No. USPN 6240530).

The limitation of claim 11 are substantially similar to the limitations of claim 6. Thus, claim 11 is rejected similar to claim 6.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10/20/07
RZ


KAMBIZ ZAND
SUPERVISORY PATENT EXAMINER